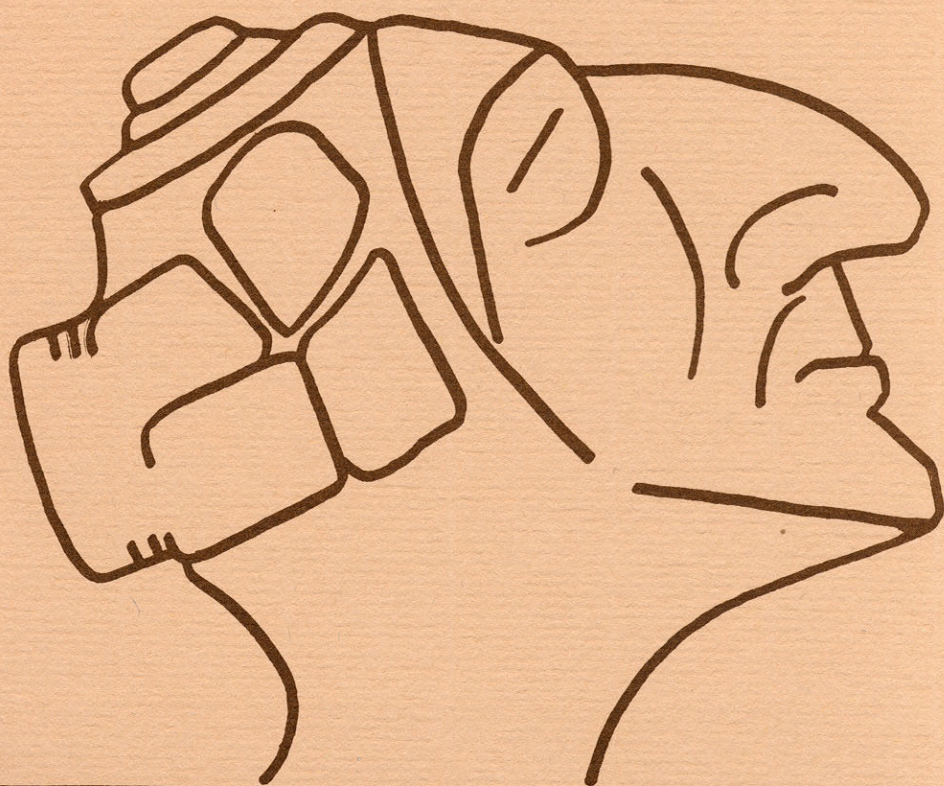


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at Lighthouse Point Shell Ring, South Carolina *Michael Trinkley*

PRELIMINARY REPORT OF ARCHAEOLOGICAL EXCAVATIONS AT LIGHTHOUSE POINT SHELL RING, SOUTH CAROLINA

Michael Trinkley

INTRODUCTION

Lighthouse Point Shell Ring is located 0.5 mile south of Fort Johnson Road on James Island and is today surrounded by the Lighthouse Point housing development. It was given the Research Laboratories of Anthropology site number SoC^v141 and is referred to as 38 Ch 12 by the Institute of Archaeology and Anthropology. The site is a Thom's Creek Phase ring-shaped midden, dating about 1800 to 1200 B.C.

The site was first described by John Drayton at the turn of the 19th century:

It is of a circular form: measuring around two hundred and forty paces. Its width at the top is ten paces; and at its base from sixteen to twenty; and its height is from eight to ten feet . . . It is situated in the midst of cleared lands, on no uncommon residing; surrounding the dwelling house and offices of a gentleman who resides on the island. And the waters, which were driven by the hurricane of 1752, over much of the adjacent lands, are said to have been completely banked out by this work. This being observed by Mr. Rivers, he placed his dwelling house therein; which has been continued, either by repairs or new buildings, to the present day (Drayton 1802:56-57).

William Rivers was granted 75 acres on James Island on September 3, 1709. Subsequently, a large portion of the island was owned by William Rivers, his relatives, and descendents, making it uncertain exactly to which Rivers Drayton was referring. No survey plat for this land has been located. Drayton goes on to report that this site was the source of shells used in burning lime for St. Michael's Church in Charleston. This would indicate that the site had suffered extensive damage by the mid-1800's both from colonial habitation and from shell removal.

In the winter of 1960 the site was again used as a source of shell for road construction. Shortly before this the housing development around the ring had begun to spread out. The lot on which the shell ring is located was deeded to the community by the developer with the stipulation that it not be altered unless the work was approved by the Charleston Museum.

When the author first visited the site in July 1973 the ring-shape was barely visible and the effects of 150 years of neglect and intermittent destruction were obvious. A ring-shape was suggested along the north and west edges of the site although heaps of shell were also scattered in the interior of the ring. The lot was thickly overgrown and had a number of large trees growing through the shell.

At that time some vandalism was evident, but about 25% of the site was intact and offered potential for future investigation.

In late winter of 1975 the Lighthouse Point Civic Club requested permission from the Charleston Museum to bulldoze the site in preparation for building a community civic center. After a brief inspection of the site permission was granted for the leveling operations and the club began and finished the work in a week. Although the site destruction was rumored, it was not until the middle of February, when the author visited the site and talked with club officials, that the damage was verified. The bulldozer had pushed the remaining ring into the center of the site and pushed over all but six trees. In no area had the scraping gone into subsoil, however, and about two feet of undisturbed midden remained in some areas. The central portion of the ring now has a shell overburden of about three feet.

At that time further construction work was being contemplated by the club and it appeared that if the site was to yield any information, an immediate salvage operation would be required. The Civic Club agreed to allow excavations and Dr. Joffre Coe, Director, Research Laboratories of Anthropology, University of North Carolina at Chapel Hill sent Jack Wilson, Assistant Archaeologist, and the author for a period of one week. Two weeks later a crew of four was sent to James Island for additional work.

The two weeks work spent at Lighthouse Point allowed investigators to open two 5-foot and three 10-foot squares for the recovery of over 12,000 specimens. The work carried out at this site was funded by the Research Laboratories of Anthropology, University of North Carolina at Chapel Hill as a salvage project. In May 1976 the author continued the testing program, opening two additional 10-foot squares. The analysis of material from this most recent work will not, however, be reported in this article. At the present time further work by the Civic Club may be more than a year off and additional investigations will be conducted beforehand by the author under a National Science Foundation grant.

Initially the work begun at Lighthouse Point was designed to collect information useful for environmental reconstruction and to test for subsurface features. Little work had been conducted on Thom's Creek Phase shell middens and even less has been published. Therefore, the Research Laboratories believed this was an opportunity to begin preliminary investigation of this cultural manifestation along the South Carolina coast.

The excavations were carried out by Research Laboratories of Anthropology staff members Trawick Ward, Jack Wilson, Paul Gardner and the author. Additionally David Piner, Department of Anthropology, University of North Carolina at Chapel Hill assisted the author during the week of excavations in May 1976. Principal investigator was Dr. Joffre Coe. Permission to excavate the site was willingly granted by Mr. David Smith, past president of the Lighthouse Point Civic Club Board. The entire membership of the Civic Club

continues to be cooperative and helpful concerning the future plans of the community. The author also acknowledges the assistance of Mr. Al Sanders and Mr. Alan Liss of the Charleston Museum, and Dr. Robert Stephenson, Director, Institute of Archaeology and Anthropology. Lodging for the first week of work was provided by Chevis and David Clark of Mount Pleasant and for the subsequent work by Dr. Ed Joseph, Director, South Carolina Marine Resources, Fort Johnson. This work was made more pleasant by the helpful attitude of these people. Mr. James L. Michie of Columbia provided a portable mechanical sifter during the excavations.

Interest in the excavations has been widespread and while work was being conducted the site was visited by Dr. William Ayres, Department of Anthropology, University of South Carolina; Dr. Donald Sutherland, South Carolina Department of Archives and History; Mr. Sammy Lee, Archaeological Society of South Carolina; Mr. Alan Liss, Charleston Museum; Ms. Leslie Beuschel, Institute of Archaeology and Anthropology; Ms. Mary Jane Rhett, Institute of Archaeology and Anthropology; Ms. Jacqueline Carter, Institute of Archaeology and Anthropology; and Ms. Patty Lovett, Department of Anthropology, University of South Carolina.

GEOLOGY AND ENVIRONMENT

James Island is a barrier island located across the Ashley River from Charleston, South Carolina, and is composed of "soils underlain by and developed from beds of unconsolidated sands, sandy clays, and clays of recent geological origin" (U.S. Department of Agriculture 1939:1111). These unconsolidated sediments are more than 1065 meters thick and rest on a bed of much older crystalline rock (Siple 1957:24). Barrier islands, such as James Island, were created as a beach or dune ridge first formed parallel to the shoreline and finally as the process of submergence flooded the area landward of the ridge to form a lagoon (Hoyt 1967). The associated lagoon developed into a salt marsh because of the later emergence of the underlying land. Colquhoun (1965) would place the formation of James Island sometime during the Quaternary period of the Pleistocene (possibly mid-Wisconsin). As Crusoe and DePratter (1976:2) have recently pointed out, it is doubtful that salt marsh existed along the Georgia and South Carolina coasts during the Wisconsin glaciation and "large oyster beds did not reform behind Silver Bluff and Holocene islands until the area was reflooded." Thus, it is unlikely that preceramic shell middens will be found along the coast.

Lighthouse Point Shell Ring is situated on soils of the Seabrook Series and surrounded by soils of the Wando and Kiawah Series (Miller 1971:26). The Seabrook Soils are acid, moderately well drained sandy-loams; the surface (A horizon) is dark grayish brown sand about one foot in thickness. The underlying material is brownish yellow; in general the soils have a low organic content, low inherent fertility and a pH of 5.7 to 4.7. Dark reddish-brown to yellow

concretions one-eighth to two inches in diameter are common. The Wando and Kiawah soils differ from the Seabrook Series only slightly and both are acid sandy loams (Miller 1971:26-27) (see also Trinkley and Ward 1978).

The coast of South Carolina is characterized by the Maritime Magnolia Forest and the Live Oak-Sea Oats region (Shelford 1963; Kuchler 1964). The Live Oak-Sea Oats region varies from open grasslands to dense shrub and groves of low broadleaf trees with the dominants of Live Oak (*Quercus virginiana*) and Sea Oats (*Uniola paniculata*); the Maritime Magnolia Forest occurs in hammocks, growing on slightly raised substratum not wet enough to be a swamp, with the Southern Magnolia (*Magnolia grandiflora*) as the dominant species (Shelford 1963).

Kuchler identifies three vegetation types which would exist in significant quantities along the coast, "if man were removed from the scene and if the resulting plant succession were telescoped into a single moment" (Kuchler 1964:2). This situation is termed the potential natural vegetation, and the types for the coast are identified as Oak-Hickory-Pine Forest, Southern Mixed Forest and Southern Floodplain Forest. The James Island ecosystem would be dominated by the Oak-Hickory-Pine Forest, which is protected from the ocean by a maritime shrub zone of salt tolerant species such as Red Cedar (*Juniperus virginiana*) and Wax Myrtle (*Myrica cerifera*). Of more importance to the Indians of the Thom's Creek Phase were the salt marshes, dominated by Smooth Cordgrass (*Spartina spp.*). Pollen from a Carolina bay in North Carolina (Whitehead 1967) indicates a dominance of pine (slightly under 50% of the total pollen count), with a quantity of oak (22%).

The climate of James Island is sub-tropical with mild winters and hot summers. The winter temperature range is 38 to 65° F with precipitation of less than 1 inch to about 10 inches per month. The summer temperatures average 68 to 90° F with 5 to 15 inches of precipitation per month (Landers 1970). Kula (1969:315) suggests that the climate at 1800 B.C. may have been somewhat milder than prior to 2000 B.C. with a cold trend and dropping sea levels after 1450 B.C.

The sea level has changed noticeably over the past 4000 years, as evidenced by now submerged or partially submerged Thom's Creek sites (Michie 1973). The evidence suggests that along the South Carolina coast the sea level was as much as ten feet lower prior to 2000 B.C. than it is today (Ernissee 1974: personal communication). A lower sea level would be conducive to fast flowing creeks, cutting straight narrow channels. As the sea level rose the creek's gradient would be reduced, a new floodplain might be created and eventually the creek channel would silt in. This process has been observed at one site on Edisto Island and may be more frequent (Trinkley 1976c).

Four environmental zones are found within a two mile radius of Lighthouse Point. The beach and dune zone occurs from the ocean inland for several hundred yards. This zone is probably least utilized by aboriginal man, as it

contains few species of either plants or animals that are not more abundant elsewhere. Of notable exception is the sea turtle, which may easily be captured in this zone during May and June. It is possible to include in the beach and dune zone the maritime shrub zone, consisting of plants tolerant of salt spray. The maritime forests occurred in large tracts prior to the influx of whites and represent a unique hunting and gathering resource. The forests provide mammals, particularly deer, as well as plant foods, including acorns and hickory nuts. The salt marsh includes that area regularly flooded by the tides. Its potential contribution to the aboriginal diet would include waterfowl, periwinkles, and shellfish. The tidal creeks, the fourth environmental zone, would provide shellfish and waterfowl, but most importantly, fish.

The relationship of these four environmental zones to Lighthouse Point may be seen in Figure 1. It is possible to calculate the amount of each environmental zone within a 1 and 2 mile radius of the site, the importance of which will be discussed later. Within 1 mile of the site there are 2.2 square miles of maritime

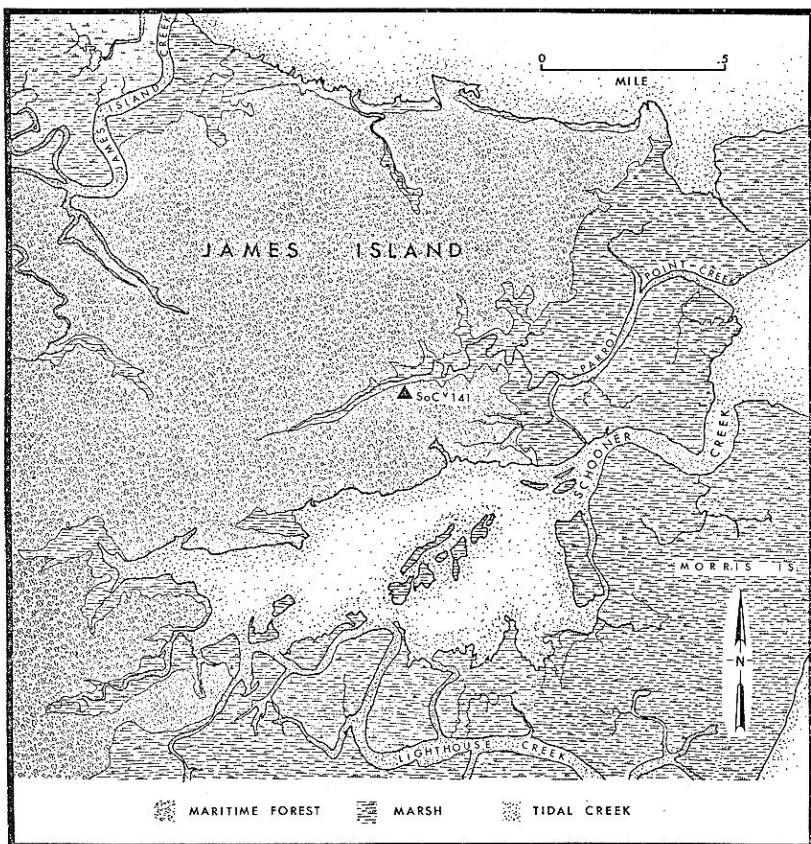


Fig. 1. Environmental zones within a 2 mile radius of Lighthouse Point.

forest (70%), 0.5 square mile of both marsh and tidal creek. Within a 2 mile radius of Lighthouse Point there are 6.3 square miles of maritime forest (50%), 3.2 square miles of marsh (25%), 1.9 square miles of tidal creek (15%) and 1.2 square miles of ocean, beach and dune (10%).

EXCAVATIONS

The first task was laying out grid lines and establishing a datum point. The R100 line was established running north-south and two permanent pins were driven into the hard surface roads to the north and south of the site. The north pin (320R100) is established as the datum with an assumed elevation of 100 feet; the south pin is located at 70R100. A map of the site was drawn to show the approximate shape and size of the area (see Figure 2).

The first area excavated was on the west edge of the site at 220R50, where a 10-foot square was set out. This area was selected because prior to 1975 it was an undisturbed portion of the site and the ground was heavily covered with periwinkle shells, suggesting a feature might be present. The initial methodology was to remove the remainder of the shell midden and screen it through one-quarter inch mesh, and once down to sterile yellow sand to plot any features which might be found. The features were then to be removed and partially dry screened through one-eighth inch mesh with the remainder to be waterscreened through one-sixteenth inch mesh.

However, previous investigators had oversimplified the stratigraphy of the shell middens and it was discovered that there was no clear break between the shell midden and the yellow sand. During the first week of work six levels were established for horizontal control:

level 1	disturbed shell midden
level 2	shell midden
level 3	shell with black/brown sand
level 4	brown sand (pre-ring humus)
level 5	brown/yellow sand
level 6	yellow sand (sterile)

This system was later simplified by omitting the transitional levels 3 and 5 and reducing the site to four levels. Although each of these varied greatly in thickness they were easily observable and once the first square was excavated there was little trouble following the various levels.

Nine features were discovered in square 220R50, 6 originating at the top of level 3 and the remainder being first observed at the top of level 5. One post hole was plotted at the top of level 5 while another was not visible until level 5 had been removed. The features will be discussed later in this article. Both post holes were round bottomed, 0.5 foot deep and 0.4 foot in diameter.

The largest amount of material, consisting of sherds, animal bones, worked bone and charcoal, came from levels 2 through 4 with little material coming

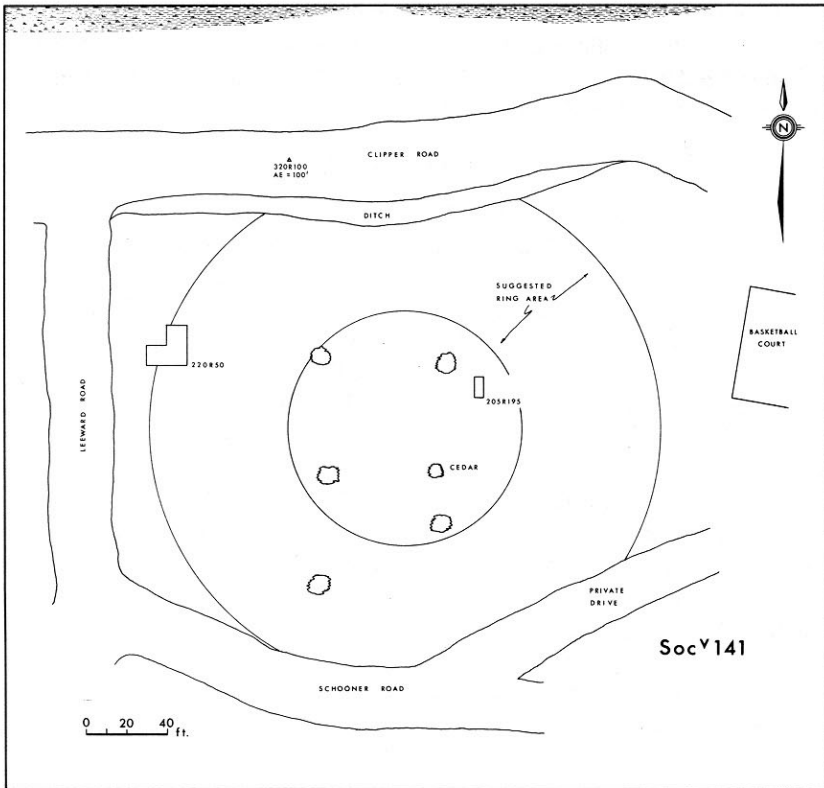


Fig. 2. Lighthouse Point Shell Ring.

from the yellow sand below the ring. Level 1 is characterized by quantities of historic pottery, nails, old cans and other recent debris mixed with the aboriginal material. This level is the result of bulldozer activity and does not usually exceed 0.2 to 0.3 foot. The shell ring, level 2, had numerous pockets of shell and occasional sand lenses. The shell was banded and frequently crushed. Although no features were recorded in this level, the numerous small heaps of a single species of shellfish probably represent the remains of a single meal and as such could legitimately be considered a feature. To do so, however, would significantly increase the amount of time required to remove this level and it was believed that the data gathered would not justify the expense of the procedure. Very little soil was mixed in with the shell, the approximate percentages being 80% shell and 20% soil.

Level 3 was similar to level 2 except black soil composed the bulk of the debris with shells scattered throughout. This level probably represents the leaching of the midden into the old humus; the shells probably were forced into the soil by the initial ring buildup and site occupation. Level 4, termed the

pre-ring humus, seems to be a buried A horizon. Large numbers of potsherds are still observed, although their number has decreased from level 2. The soil is brown and somewhat loamy; a number of yellow concretions, characteristic of the Seabrook soils, are found at this level, probably the result of pits being dug into lower levels. Levels 5 and 6 are both sandy yellow soil with the cultural material rapidly diminishing down to a depth of 3.0 feet below ground level, at which point the sand is sterile, except for occasional root holes.

Two more squares were opened adjacent to 220R50. Square 220R40, to the west, was the next area investigated and it was in this square that the supposed toe of the ring was located (see Figure 3; Plate 3). It appears that a large pile of colonial garbage, including brick fragments, iron pieces, glass and sherds, was pushed over the edge of the ring and deposited on the exterior slope of the site. Six additional features were recorded in this square; four probably originated at a higher level but were not discovered until the top of level 6, while 2 others probably originated at this level. The density of features was less than in 220R50 which might support the suggestion of this square being at the edge of the site.

A third square, 230R50, was begun north of 220R50, but could be taken down only to the top of level 4 before it was necessary to backfill. Two additional features were found in this square at the top of level 4. Two squares, 230R60 and 230R70 were excavated to the top of level 4 in May 1976. As a result 13 additional features and 2 post holes were found.

Two five-foot squares (205R195 and 210R195) have been excavated in what is believed to be the central portion of the shell ring. It was hoped that it would



Plate 1
Lighthouse Point Shell Ring, looking north

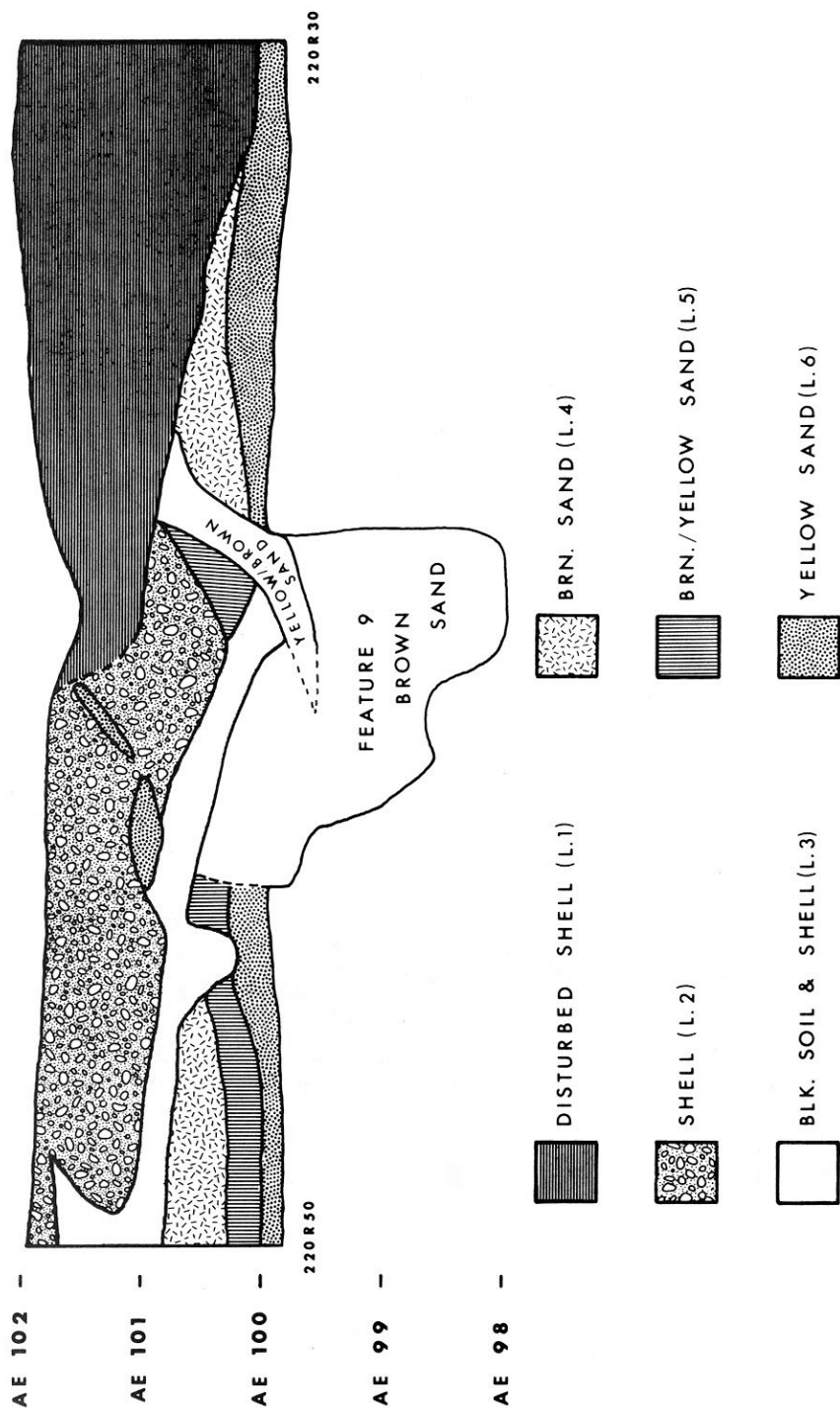


Fig. 3. South Profile of Squares 220R50 and 220R40, showing edge of ring.

be possible to verify that the site had a clear interior while looking for features which might possibly indicate the function of this interior. The stratigraphy of these two squares is somewhat different from that found on the edge of the ring, the most noticeable difference being the absence of levels 2 and 3 (i.e. shell). Level 1 consists of disturbed shell and black humus—probably representing an old plowzone. The sherds in this level are small and worn. There is a large quantity of historic material, accounting for more recovered material than the Indian remains in the same level. Level 4 consists of the pre-ring humus with large quantities of small sherds. These sherds are scattered into level 5—a yellow-brown sand (see Figure 3).

Only one feature was found in the interior of the ring—an indistinct pit discovered in the west profile of 205R195 and 210R195. This feature originated in level 5 and contained a quantity of sherds, 1 chert projectile point and a small quantity of charcoal.

During the three weeks of excavation 1850 cubic feet of soil and shell were excavated and 29 features were located. Three hundred and fifty-two man hours were spent at the site by a combined total of 8 people. To date over 15,000 specimens have been recovered, including over 4000 potsherds, 5000 animal bone fragments and 60 pieces of worked bone.

FEATURES

Features have been elusive at most Thom's Creek or Stallings phase shell ring sites. Waring (Williams 1968:271) excavated over 1100 square feet at Sapelo and found six features. Edwards (1969) found only two features at Sewee, although 300 square feet were excavated. At Lighthouse Point features have been abundant and well preserved and those excavated are briefly described in this section (see Figure 4).

Feature 1 is a shallow basin in the northeast corner of 220R50, measuring 2.8 (E-W) by 1.95 (N-S) feet and 0.69 foot deep. This feature originated at the top of level 3 and consisted of a central shell lens surrounded and underlain by black soil with some shell and charcoal. Associated with the feature were potsherds and animal bone; two of the sherds were Awendaw Finger Pinched while the remainder were Thom's Creek Plain.

Feature 2 is a shallow basin at the southern edge of 220R50 measuring 1.2 by 3.4 feet and 0.8 foot deep. This feature was bisected by the 220 line and was found at the top of level 2, although it was not plotted until the top of level 3. Like Feature 1, this basin was composed of a central deposit of shell surrounded and underlain by black soil. Mixed with and slightly under the black soil was a quantity of white, hardened ash. The artifact content of this feature was almost identical with Feature 1, with the exception that the black soil zone was more productive of sherds, animal bone and charcoal than the other two zones.

Feature 3 is a fire or cooking pit bisected by the 230 line in square 220R50, measuring 1.9 by 3.6 feet with a depth of 1.0 foot. Feature 1 is intrusive.

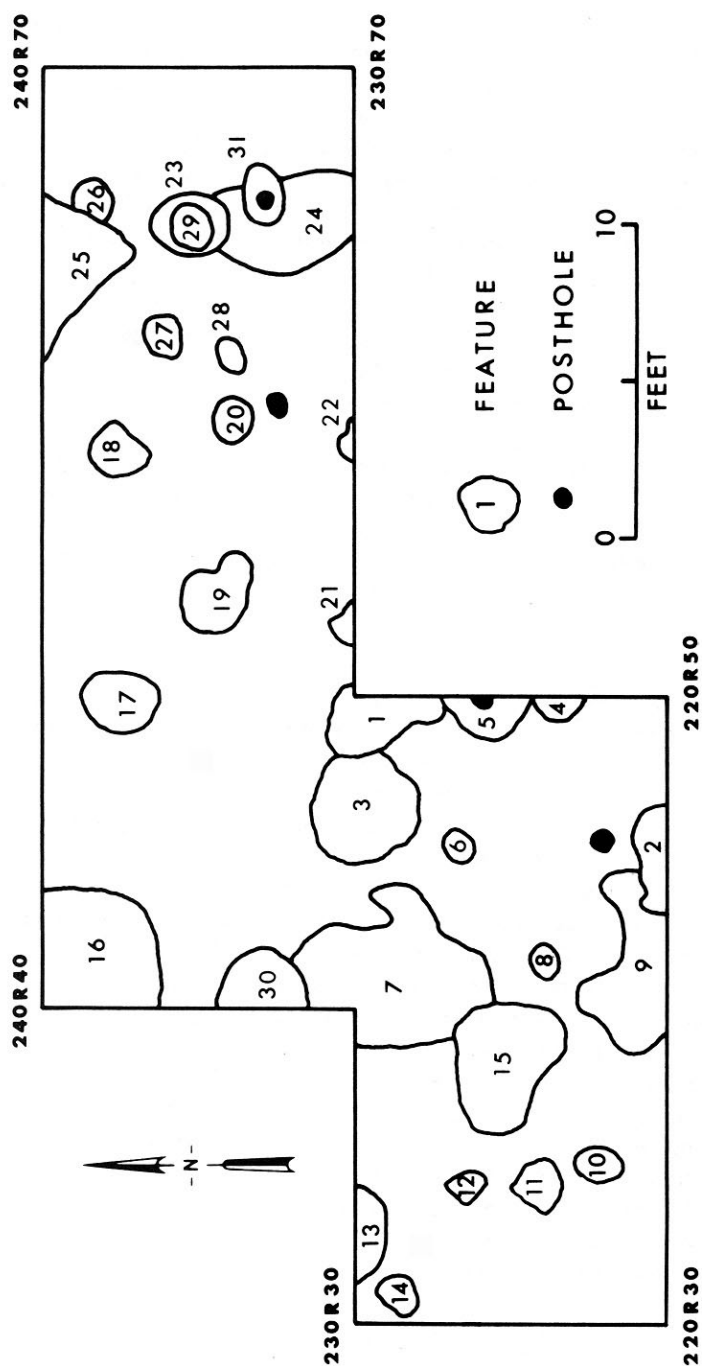


Fig. 4. Plan view of Lighthouse Point excavations.

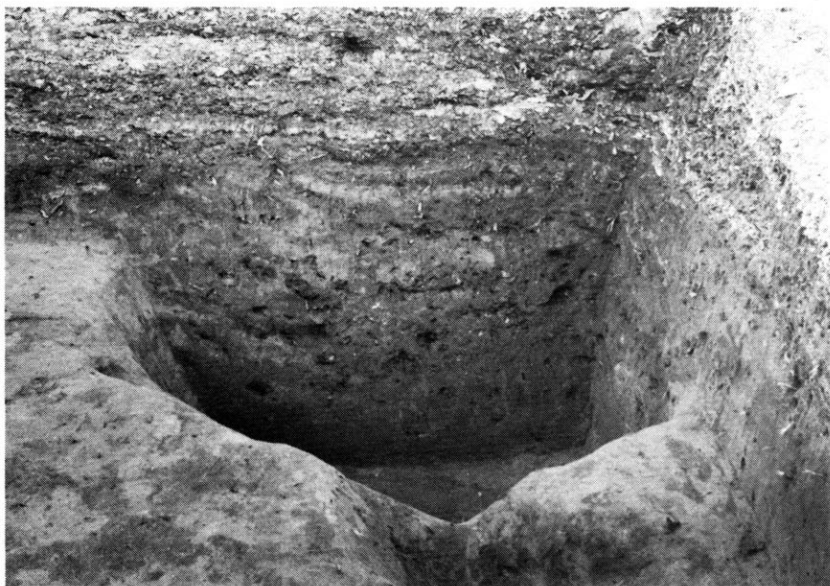


Plate 2
Feature 7 after excavation, looking northwest



Plate 3
South profile of square 220R40

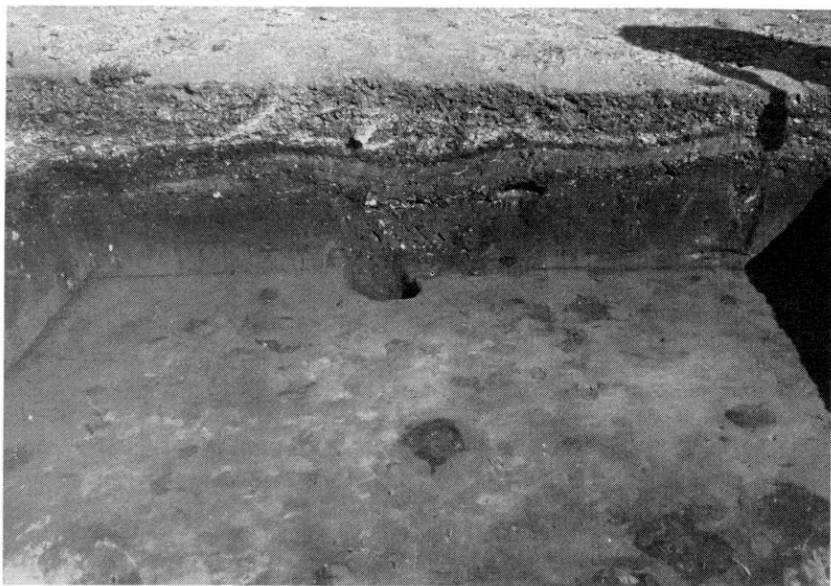


Plate 4
East profile of square 220R50



Plate 5
West profile of square 205R195

Feature 3 was first observed at the top of level 3 and was composed of 4 distinct zones. The uppermost zone was crushed shell and periwinkle shell surrounded by a collar of black soil having a quantity of charcoal and animal bones mixed with it. This overlaid a layer of gray soil and ash with large amounts of burned shell. Completely surrounding the feature was a layer of mottled brown soil having few artifactual remains. Five Awendaw Finger Pinched sherds and 1 Thom's Creek Reed Punctate sherd were the only diagnostic materials.

Feature 4 is a shallow basin bisected by the R50 line in 220R50, measuring 1.8 by 0.7 feet and 0.2 foot deep. The feature originated in level 2, but was not plotted until the top of level 3. Feature 4 is intrusive into Feature 5. The only zone noted in this feature is a black lens having a small quantity of animal bone, charcoal and potsherds. This feature was probably similar to Feature 1.

Feature 5 is a shallow basin bisected by the R50 line in square 220R50, measuring 2.7 by 1.7 feet and having a depth of 0.3 foot. The feature originated in level 2, but was not plotted until the top of level 3. The internal construction of the feature was identical to the others—having a black soil zone overlaid by a shell lens composed of crushed shell and periwinkles. No diagnostic material was recovered.

Feature 6 was originally interpreted as a tree disturbance, but in retrospect was probably a posthole or a small feature originating at the top of level 3. It measured 1.8 by 1.4 feet and had a depth of about 1.5 feet. One Awendaw Finger Pinched sherd and 1 Thom's Creek Shell Punctate sherd were found.

Feature 7 is a deep pit in the northwest corner of 220R50, the northeast corner of 220R40 and the southwest corner of 230R50. It measured 4.2 by 3.1 feet and had a depth of 2.2 feet. This feature was first defined at the top of level 5, although it probably originated (and excavation was first attempted) at the top of level 3. The internal construction of the feature was identical to many of the smaller features—having a black soil zone overlaying a brown sand zone. The feature showed, in profile, yellow sand lenses and shell stratigraphy. Recovered from this feature were large quantities of sherds, 1 antler projectile point, 2 polished bone pins, and worked antler tines. Diagnostic material includes 3 Awendaw Finger Pinched sherds, 1 Thom's Creek Reed Punctate sherd and 1 Thom's Creek Incised sherd.

Feature 8 is a shallow basin first observed at the top of level 6 in square 220R50, having measurements of 1.3 by 1.1 feet and a depth of 0.2 foot. The feature was composed of black fill with scattered shell; it may be that a portion was removed with level 5. Recovered were sherds, 1 unfinished bone pin and 1 engraved bone pin.

Feature 9 is a deep pit located in the southwest corner of 220R50 and southeast corner of 220R40 measuring 6.9 by 2.9 feet with a depth of 2.0 feet. This feature had the size and general outline of Feature 7, but lacked the complicated stratigraphy and artifact inventory. Staining was first observed at the top of level 4, but excavation was not begun until the top of level 6. The

feature consisted of a thin black soil zone overlaying a thick brown zone. Recovered were sherds, animal bone, charcoal and shell. Diagnostic material includes 3 Awendaw Finger Pinched, 2 Thom's Creek Reed Punctate and 2 Thom's Creek Shell Punctate sherds. In profile it appears that this feature may be result of three intrusive features which merged to form one pit with fairly homogeneous fill.

Feature 10 is a shallow basin originating at the top of level 6 in 220R40, measuring 1.4 feet in diameter and having a depth of 0.65 foot. This feature lacked cultural material except for a small quantity of fired clay.

Feature 11 is a shallow pit originating at the top of level 6 in 220R40, measuring 1.5 by 1.7 feet and having a depth of 0.28 foot. A small quantity of charcoal was found in the brown fill but otherwise the feature was sterile.

Feature 12 is a shallow basin originating at level 6 in 220R40, measuring 1.2 feet in diameter, and having a depth of 0.32 foot. The pit had homogeneous brown fill with some poorly preserved shell.

Feature 13 is bisected by the 230 line in square 220R40 and originated at the top of level 6. The excavated portion of this feature measured 3.0 by 0.9 feet and had a depth of 1.5 feet. The feature consisted of a black soil zone mixed with shell overlaying a mottled brown fill. Sherds, animal bone, and charcoal were recovered from this feature.

Feature 14 is a shallow basin in the northwest corner of 220R40, originating at the top of level 6. This basin measured 1.0 by 1.6 feet, having a depth of 0.73 foot. The upper portion of this pit originated in level 3, but was disturbed by tree root activity. The fill of the pit was a brown sand which contained quantities of charcoal, but little animal bone or pottery.

Feature 15 is bisected by the R40 line in squares 220R50 and 220R40. The feature measured 4.25 by 3.55 feet, and had a depth of 2.0 feet. This feature was intrusive into Feature 7 and the margin between the two was indistinct. The feature consisted of a layer of black soil with mixed shell overlaying a lens of burned sand, clay and ash. The bottom of the pit was filled with a gray-brown soil. Few artifacts were recovered from this pit.

The features at Lighthouse Point are, in general, poor producers of artifacts and pottery, although they are rich in animal bone and charcoal. The general shape and internal composition of the features suggests they were used as roasting pits for mollusks and other foods. It is likely those features observed as shallow basins were larger pits that were not defined until cut down to level 5 or 6. This should emphasize the problem of defining and then excavating a feature with crushed shell fill which has been dug into a shell midden. In many cases it was impossible to see the feature in plain view until the shell had been removed to level 6, although at times it was then possible to see the feature in profile if it had been bisected by the square wall.

The features originated at a number of different levels within the squares and were generally confined to the ring area. Only one feature was discovered in the

central portion of the ring and it was bisected by the R190 line in squares 205R195 and 210R195. The pit fill was a homogeneous brown-black sand with a number of associated sherds. The purpose of this pit is unknown and its nature is seen as somewhat different from those found in the shell midden.

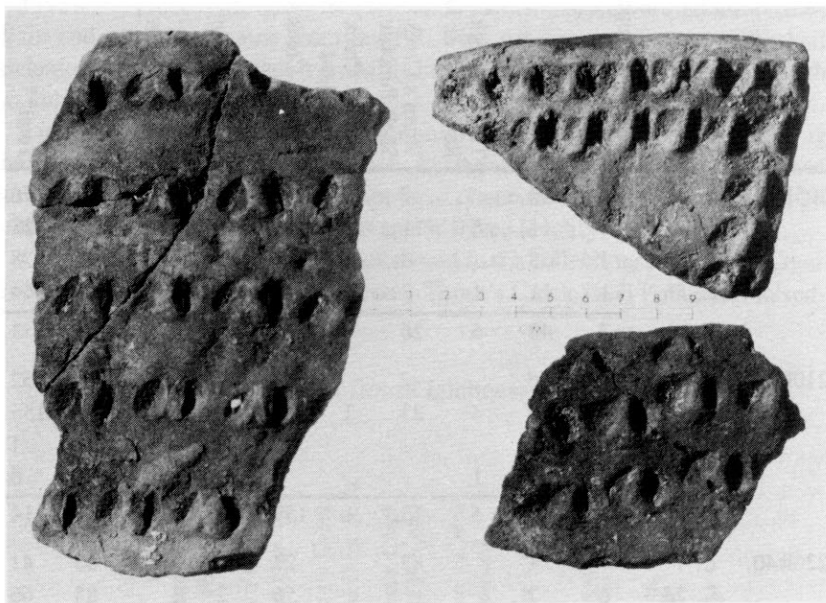


Plate 6

Awendaw Finger Pinched pottery (Thom's Creek Ware)

ARTIFACTS

Ceramics. The predominant pottery recovered from the Lighthouse Point Shell Ring was Thom's Creek Plain, followed by Awendaw Finger Pinched. Tables 1 and 2 show the distribution of pottery by square and feature. Extensive treatment of the Thom's Creek Ware has been provided elsewhere (Trinkley 1976a) and will not be treated here; a few general comments will be offered instead.

The variety in Thom's Creek sherds noted by Trinkley (1976a) was exceeded by the collection from Lighthouse Point. In addition to the sandy and gritty pastes of Thom's Creek sherds previously documented, two additional paste varieties were noted: a lumpy contorted paste with frequent iron ore concretions up to 5 mm. in diameter and a sandy paste with frequent occurrences of platey shell inclusions. The iron ore inclusions (possibly hematite or goethite) give the paste an appearance very similar to Wilmington sherd tempered pottery, but in this case the inclusions are probably native to the clay source used (Heron,

Table 1. Sherds recovered from Lighthouse Point by square and level.

		Awendaw Finger Pinched	Thom's Creek Reed Punctate	Thom's Creek Reed Drag & Jab	Thom's Creek Shell Punctate	Thom's Creek Incised	Thom's Creek Plain	Unidentifiable	Colono-Indian	Small*	Total**
205R195,	L. 1	1	10		7		53	4	1	67	76
	L. 4		11	5	11		94	4		262	125
	L. 5a	1	8		5	1	61	2		108	78
	L. 5b	1	11	1	3		48			147	64
	Total	3	40	6	26	1	256	10	1	584	343
210R195,	L. 1		5		2		43	1	1		52
	L. 4	4	16	4	23	1	106	1		412	155
	L. 5						1			3	1
	L. 6	2		1			3			3	6
	Total	6	21	5	25	1	153	2	1	418	214
220R40,	L. 1	7	4		3		27			63	41
	L. 2&3	6	2				56	2		85	66
	L. 4	2	2				55			20	59
	L. 5		2		2		34		1	15	39
	Total	15	10		5		172	2	1	183	205
220R50,	L. 1	21	8	1	8		198	1		585	237
	L. 2	7	1		5	1	76	1		121	91
	L. 3	32	9	1	14	1	311			717	368
	L. 4	7	2		1		197			140	207
	L. 5	1			1		13			48	15
	Total	68	20	2	29	2	795	2		1611	918
230R50,	L. 2&3	100	14	1	19	2	644	5	1	728	786
	L. 4		1				10			7	11
	Total	100	15	1	19	2	654	5	1	735	797
Total		192	106	14	104	6	2030	21	4	3531	2477

*under ½" in diameter

**not including small sherds

Robinson and Johnson 1965:11). Thirty-nine sherds were recovered with this type of paste—37 were Thom's Creek Plain, and one each was Awendaw Finger Pinched and Thom's Creek Reed Punctate. This paste was distributed throughout the excavations but 19 of the 37 sherds were found in levels 3 and 4.

Five sherds recovered show frequent shell inclusions; all were Thom's Creek Plain and 4 of the 5 came from level 3. This occurrence of paste with shell inclusions is so sporadic that it probably indicates an accidental occurrence with no cultural significance.

Lip decoration was slightly more common at the Lighthouse Point Shell Ring than was previously noted for the coast. Furthermore, 10 examples of lip dowel stamping were found, which had not been observed at coastal sites, although noted by Phelps (1968) for the Savannah River locality.

Only two multiple designs were observed in the collections: 1 Thom's Creek Shell Punctate/Reed Drag and Jab and 1 Thom's Creek Shell Punctate/Incised.

Table 2. Sherds recovered from Lighthouse Point by feature.

Feature	Awendaw Finger Pinched	Thom's Creek Reed Punctate	Thom's Creek Reed Drag & Jab	Thom's Creek Shell Punctate	Thom's Creek Incised	Thom's Creek Plain	Unidentifiable	Small*	Total**
1	2					15	1		18
2	3					20		9	23
3	5	1				39		11	45
4						3		8	3
5						1	2		3
6	1			1		7		3	9
7	3	1			1	79		61	84
8						5		23	5
9	3	2		2		58	1	48	66
13						15			15
14						3		2	3
15	1					30		12	31
Total	18	4	0	3	1	275	4	177	305

*under ½" in diameter

**not including small sherds

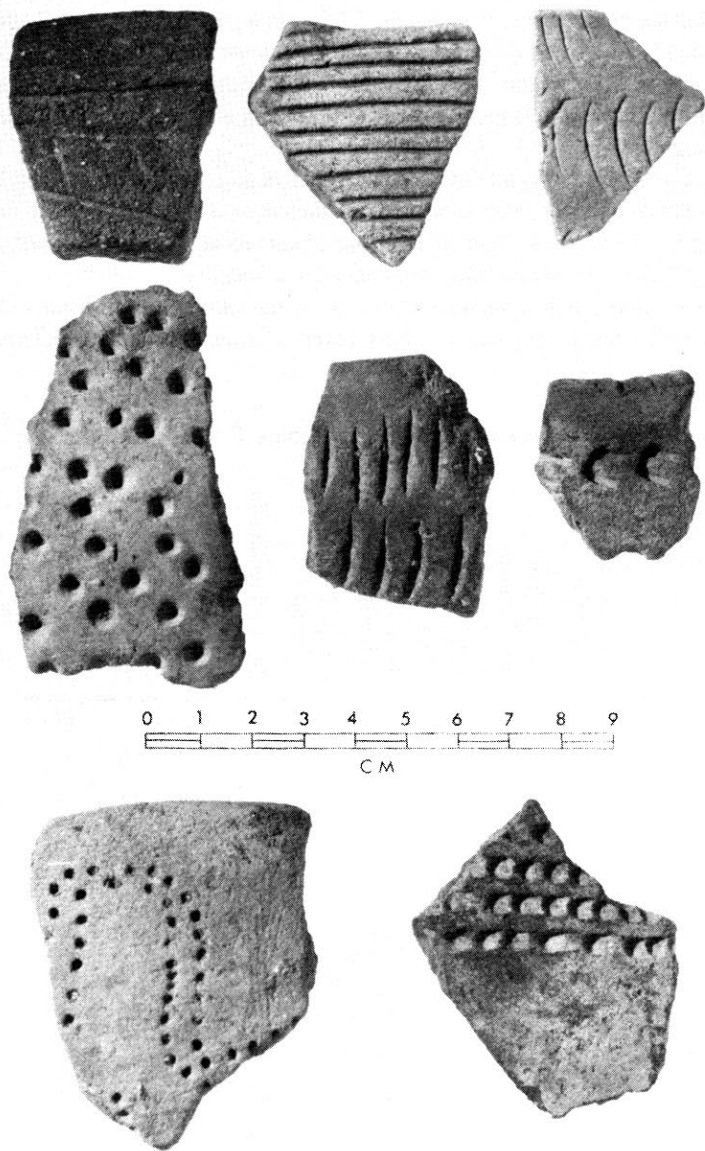


Plate 7
Thom's Creek Ware

Forty-seven painted sherds were found, accounting for almost 2% of the total collection. Sherds were painted most frequently on the interior only (47%), and infrequently were painted on both the interior and exterior (19%) (see Table 3).

Historic Ceramics. Table 4 lists the historic ceramics that were recovered from the excavations at Lighthouse Point. The bulk of the ceramic inventory came from the colonial disturbance in 220R40 with the remainder coming from level 1 in 205R195 and 210R195. The mean ceramic date computed for the total collection is 1784.3, with a range in median dates from 1713 to 1860. The mean ceramic date for just 205R195 and 210R195, in the center of the ring, was 1779.1.

Sherd Abraders. Infrequent sherds found with a deep groove on one side, or occasionally with multiple grooves, have been functionally interpreted as abraders. The grooves are about 4 cm. long and from 5 to 10 mm. in width. These tools probably were used in the manufacture of bone pins and were used to shape and roughly polish the bone before further work. They may also have been used to shape antler tines used as projectile points. Sixty-five abraders were recovered from square excavations and an additional 11 were found in feature fill. No abraders were found in 205R195 or 210R195 and the majority (68%-44) were found in levels 2 and 3 of squares 220R40, 220R50 and 230R50.

Lithics. The entire lithic inventory from Lighthouse Point consists of three chert projectile points, 1 quartzite cobble, 1 small rhyolitic hafted hammer stone and 15 flakes. The projectile points appear to have been made from a yellow to brown chert, and all are Savannah River Stemmed points (Coe 1964). One is the distal fragment of a point which seems to have had the tip of the blade worked to a fine point. Of the 15 flakes, 13 are yellow chert, 1 is quartzite and 1

Table 3. Types of painted sherds

	Interior	Exterior	Both	Total
Awendaw	2	6	4	12
Thom's Creek Reed Punctate		2		2
Thom's Creek Shell Punctate		4		4
Thom's Creek Incised	1			1
Thom's Creek Plain	19	4	5	28
Total	22	16	9	47

is rhyolite. All but 2 were flakes of bifacial retouch produced in the process of resharpening an existing tool. The two other flakes are blocky and may represent bi-polar flaking. All of this lithic material was found in 205R195 and

Table 4. Historic ceramics recovered from Lighthouse Point.

	205R195	210R195	220R40	Total
Lead Glazed Slipware, combed & dotted yellow	12	8	5	25
Salt Glazed moulded white	3		4	7
blue & gray			1	1
Porcelain	4	3		7
Coarse Lead Glazed Earthenware red	4	5	6	15
black		1	1	2
gravel tempered			3	3
Refined Lead Glazed Earthenware red		3	2	5
splatter		1		1
Unglazed Earthenware	7			7
Creamware Carolina		1	8	9
plain	4	4	2	10
overglazed enamelled			3	3
transfer printed	17			17
Pearlware mocha		1		1
underglazed blue			5	5
willow pattern			5	5
blue & green edged	3		3	6
plain	4	1	12	17
Whiteware, plain	5			5
Stoneware, brown bottle		5	11	16
Total	63	33	71	167

210R195, in the interior of the ring; the only piece coming from the ring excavations was a quartzite cobble with little obvious battering (230R50, level 2). A small hafted hammerstone was obtained in the surface collections, along with 2 of the 3 points. Additional projectile points have been found by neighborhood collectors, many being Middle Archaic points found after the initial bulldozing. In addition John Miller excavated a nearby site in 1962 for the Charleston Museum, on which he found a large amount of lithics.

Shell. The most frequent type of worked shells found were altered whelks (*Busycon carica*). Twenty-four examples were noted from Lighthouse Point and could be divided into three classes; pointed columella awls, worn and polished columella, and whelks with round holes in the body whorl. Five examples were found of *Busycon* shells which had the body whorl removed, leaving only the columella which has a sharp point. Nine examples were found of worn and battered columella tips. It may be that these represent fragments of the third type of *Busycon* tool: an intact shell with at least 1 hole in the spire or body whorl of the shell and some wear on the columella. Ten examples of this third tool type were recovered and it is possible that these were used as digging tools.

One flat shell bead was found in the excavation of 220R40, level 5; it measures 9 mm. in diameter and has a 2 mm. hole drilled in the approximate center. The bead was made from a ribbed mussel (*Modiolus demissus*) as evidenced by sections of the radiating sculpture remaining on the bead.

Bone. Worked bone was the most abundant artifact category after pottery, accounting for 57 pieces. This category was broken down into worked bone pins, modified antler and modified bone. The largest category of bone artifacts consists of worked bone pins, represented by 37 specimens. The plain polished pins were divided into three types, based on the type of head the pin has, while those represented by only midsections were placed in the fragments category. Pin Type I is a slender, cylindrical pin with a round head. The pin is completely smoothed and no articulatory surface remains. This type is represented by 2 specimens. Pin Type II is a cylindrical pin having a spatulate head and generally being somewhat thicker than Pin Type I. Three pins of this type were recovered. Pin Type III is cylindrical with a bulbous head. These pins usually show a portion of the articulatory surface and are larger than Type I pins. Three specimens were found. All of these pin types have gently tapering shafts that come to a point. Because this classification depends exclusively on head shape, 13 specimens, consisting of pin midsections and points, were untyped. Pin Type IV is engraved and worked in the round, with a rounded head. This type is represented by 9 specimens. Pin Type V is engraved and worked on only half of its diameter and has a spatulate head. This pin type is less carefully executed and is represented by only 1 specimen. Because the engraved pin types do not rely solely on head shape, but also on the engraving technique, there were no pins that could not be typed.

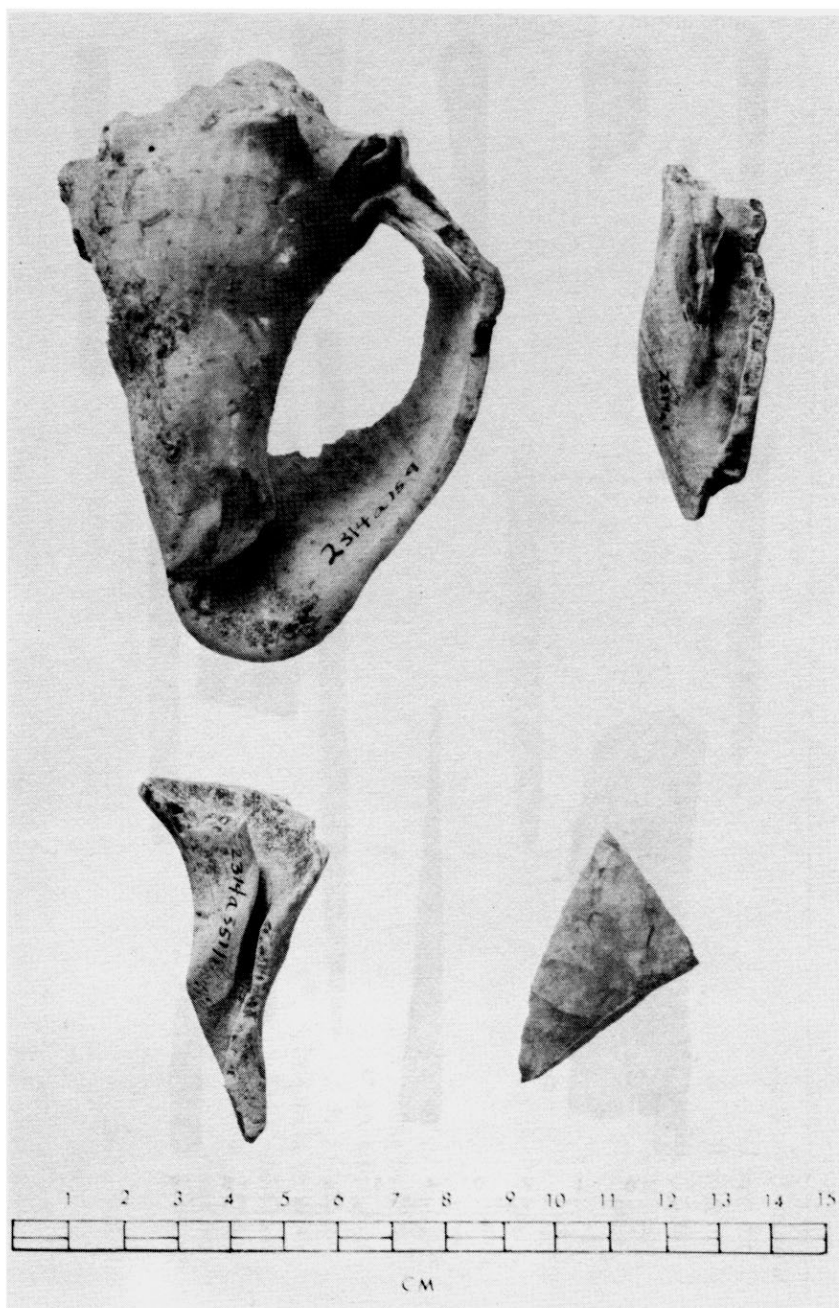


Plate 8
Shell and lithic artifacts



Plate 9

Bone and antler artifacts: A, socketed antler projectile point; B, socketed antler tine; C, socketed antler beam; D, bone awl; E, cut and polished bird bone



Plate 10

Bone artifacts: A, plain polished bone pins; B-C, engraved polished bone pins; D, unfinished bone pin; E, cut bone pin prior to polishing

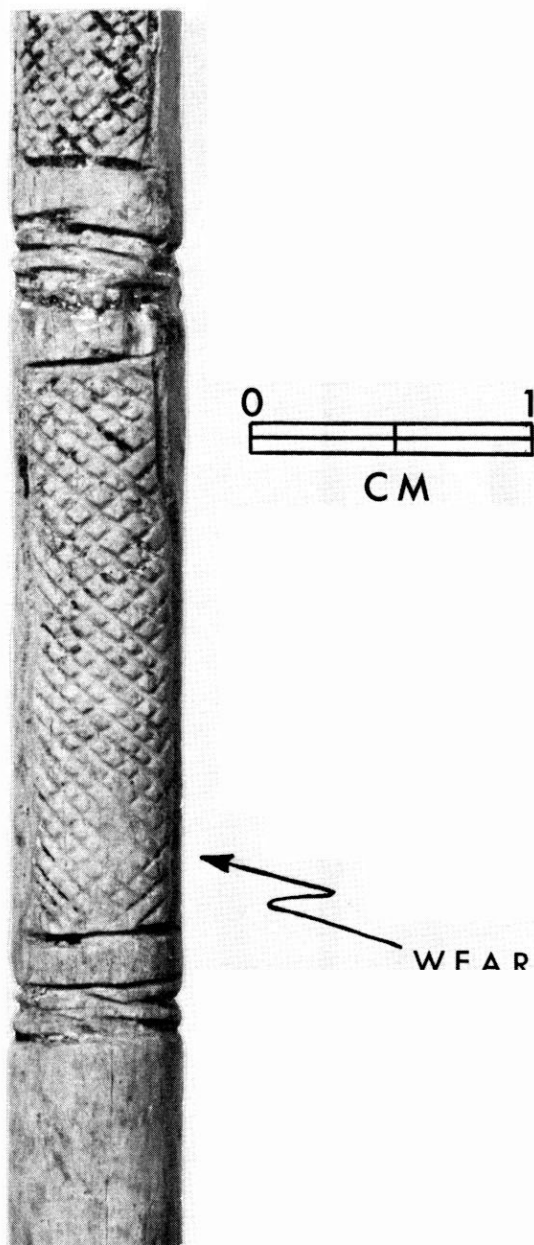


Plate 11

Bone pin showing evidence of wear on design element

Four examples of unfinished bone pins and waste products were found during the excavations. Waste products consist of cut and partially broken deer long bones and slivers of bone. The process of bone pin manufacture has been replicated by Michie (1976:personal communication) using deer cannon bones. Pins which are roughly shaped but not polished were classified as unfinished, although they may represent a functionally different entity from the polished bone pins. Two examples of cut and polished bird bone were found, but neither was engraved.

Although the function of these pins has not been determined, Plate II illustrates an enlarged portion of one pin, showing obvious wear on one of the engraved blocks, roughly in the middle of the shaft. Further wear studies of this artifact type may provide a clearer understanding of its aboriginal use.

The next most frequent bone modification involves antlers—14 specimens were recovered from Lighthouse Point. There seems to have been an extensive production of antler artifacts—predominantly socketed antler projectile points. Antler tines were removed from the beam by circular notching and then breaking. Four examples of cut antler were found and represent this initial stage in the manufacturing process. The antler tines were then frequently sharpened, although 1 specimen was found that had received no sharpening. One example has also been recovered of a partially socketed antler tine. Fairly straight, socketed, sharpened antler tines under 3 inches have been termed projectile points; however, 2 examples are over three inches in length and slightly curved, calling into question their function as “projectile points.” It is possible that such tines were used for hafting stone tools used in the manufacture of bone artifacts, or were thrusting spears.

There are additional, as yet unidentified, items of bone showing various stages of alteration. Several bone awls have been found, as well as smoothed turtle shell.

SUBSISTENCE

A quantity of animal bones was recovered from the excavations, and remains from 220R50 and 230R50 have been identified by the author with the assistance of Jeannette Runquist, Ph.D. in zoology at North Carolina State University. This preliminary investigation of the faunal remains will be useful in a tentative reconstruction of the subsistence pattern at Lighthouse Point.

The bone preservation was excellent, at least partially due to the large quantities of shell present at the site. A few of the specimens were encrusted with calcium carbonate—making identification difficult or impossible. The majority of the bones was unburned and butchering marks were frequently visible. No attempt was made to identify the genus of either turtles or fish. Although the identification of turtle bone is readily possible, it is doubtful that the return would have been worth the investment in time. Large quantities of turtle shell were found, but very little meat or usable by-products accrue from

the "capture" of a turtle. They may be regarded as a supplemental food source, "happened upon" during shellfish gathering or fishing. The fish bones were not identified because of the expertise required and the lack of an adequate comparative collection.

Eight mammal species were recovered, including deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), opossum (*Didelphis marsupialis*), mink (*Mustela vison*), rabbit (*Sylvilagus spp.*), fox (*Urocyon cinereoargenteus*), and squirrel (*Sciurus niger* and *S. caroliensis*). At least three species of birds were found, including the clapper rail (*Rallus longirostris*), turkey (*Meleagris gallapavo*), and mallard duck (*Anas platyrhynchos*). Additionally several toads (*Bufo spp.*) were found, probably as accidental aboriginal inclusions.

Table 6 indicates the minimum number of individuals (MNI) of each species and probable caloric content. From this table it may be suggested that deer was heavily exploited, providing (based on this *limited* sample) 17 to 55 times more calories than birds or raccoon, the second and third ranking sources of calories. Shellfish, in the same two squares, could have contributed about 496 kilocalories. Although this is an insignificant caloric yield, shellfish were readily available, and did provide relatively high amounts of carbohydrates which are lacking from all other sources except plant foods.

All portions of the deer are represented in this sample, with the exception of the mandible. In addition there is a proportionally small number of vertebrae for the number of animals represented by leg bones. The mandible may have been cut off at the kill site to allow immediate consumption of the tongue, and the low number of vertebrae may be due to preferential distribution of select meat cuts. Until more data is forthcoming, however, these are simply speculations. An analysis of the wear on the deer premolars and molars indicates that some kills were made around December, while the epiphyseal union indicates several fall

Table 6. Faunal remains from squares 220R50 and 230R50.

	MNI	Wt./oz.	Meat wt./oz.	Kilocalories
Deer	9	131.1	900.0	56,700
Raccoon	7	4.1	122.5	3,369
Opossum	3	1.0	25.5	726
Mink	2	0.4	18.0	495
Rabbit	1	0.1	1.8	65
Fox	1	0.2	10.0	275
Squirrel	3	0.4	3.0	82
Bird	8	8.6	40.0	1,240
Turtle	15	18.2	7.5	296
Fish	—	12.7	—	—
Unidentified	—	13.4	—	—

or early winter kills. Apparently animals of all ages were hunted, from under 14 months to over 10½ years (based both on epiphyseal union and dental wear).

Table 7 lists the shellfish found at Lighthouse Point and notes their relative abundance. Their limited potential for aboriginal nutrition has been mentioned and it should be stressed that while they appear great in number, they represent little time/energy investment in terms of procurement or preparation. Nor does their collection represent a serious strain on the environment, as an 80 square foot oyster bed can yield up to 400,000 oysters yearly.

These data also provide evidence for year round site occupation. Antler broken from frontal bones was found, suggesting kills made between late summer and mid-winter. Tooth eruption and wear indicate some fall and winter kills, but the bulk of information is not conclusive. The occurrence of juvenile whelks places occupation during the months of May through July and carbonized hickory nutshell suggests a late fall gathering activity. Analysis of the fish bones may show seasonal species, such as the sea catfish, toadfish or sea trout; and further study of the various bird remains may indicate some with seasonal migration routes through South Carolina. But even with the scanty evidence now available there seems to have been utilization of this site during all periods of the year.

Reference to Figure 1 indicates that the inhabitants of Lighthouse Point were not forced to make extensive treks into the hinterland in quest of food. The species that have been recovered archaeologically all occur within two miles of the site. Further, the percentages of the various environmental zones within that mile seem appropriate to support the aboriginal population.

Table 7. Shellfish found at Lighthouse Point.

Shellfish		Occurrence
Angel Wing	<i>Cyrtopleava costata</i>	uncommon
Common Cockle	<i>Trachycardium muricatum</i>	uncommon
Common Oyster	<i>Crassostrea virginica</i>	abundant
Common Periwinkle	<i>Littorina irrorata</i>	common
Fat Dove Shell	<i>Anachis obesa</i>	uncommon
Great Heart Cockle	<i>Dinocardium robustum robustum</i>	uncommon
Horse Conch	<i>Pleuroploca gigantea</i>	rare
Knobbed Whelk	<i>Busycon canaliculatum</i>	common
Lightening Whelk	<i>Busycon contrarium</i>	uncommon
Lobed Moon Shell	<i>Polinices duplicatus</i>	rare
Olive Shell	<i>Oliva sayana</i>	rare
Quahog	<i>Mercenaria mercenaria</i>	common
Ribbed Mussel	<i>Modiolus demissus</i>	abundant
Stout Tagelus	<i>Tagelus plebius</i>	uncommon

CONCLUSIONS

The small sample size and its nonrandom nature should be kept in mind while considering the results of this excavation. The ideas expressed are tentative, based on the available data, and are offered for testing by future work.

On the basis of radiocarbon determinations at other Thom's Creek Phase circular shell middens, Lighthouse Point may have been occupied around 1600 B.C. Midden accumulation seems to have started on top of a developed humus level with a large number of sherds and shells being trampled into the soil during the first phase of occupation. Pits were being dug from the beginning and the morphology of these features seems to have been constant during occupation. The stratigraphy which remains at Lighthouse Point suggests the gradual accumulation of shell and debris, occasionally being covered by yellow sand turned out from recently dug pits.

The "numerous small piles [of shell] about seven or eight feet in diameter" which Calmes (1967:11) attributed to individual habitation sites at Ford's Skull Creek Shell Ring (SoC 253) were not observed during these excavations. More extensive excavations in the future may show this accumulative stratigraphy. No evidence was found of any humus development within level 2; this negative evidence may indicate that the site was not left unoccupied for any length of time. The habitation was on the shell and there seem to be definable activity areas within the site. All of the lithics found in the excavations came from the interior of the ring, while the sherd abraders were only found in the midden area. No worked bone, either complete or in some stage of manufacture, was found in the interior of the ring. Additionally, the sherds found in the lower levels of 205R195 and 210R195 showed considerable wear and were more fragmented than sherds from the midden area. There were 572 sherds under one-half inch in diameter per 100 cubic feet of soil in the interior of the ring, but only 266 small sherds per 100 cubic feet of soil in the midden.

There were 5 Awendaw Finger Pinched sherds per 100 cubic feet in the interior as compared to 19 sherds per 100 cubic feet in the midden. The interior of the ring, however, had a density of Thom's Creek Reed Punctate sherds eight times as great (41 to 5 per 100 cubic feet) as the midden and a density of Thom's Creek Shell Punctate sherds three times as great (15 to 5 per 100 cubic feet) as the midden. It should be stressed that these figures are based on small, non-random samples, but the tendencies shown are significant at the .001 level ($\chi^2=34.3$) and the occurrence of these sherds is very dissimilar (41.54%) utilizing the Index of Dissimilarity (Labovitz 1963).

This evidence suggests that different activities were taking place within the ring than were happening on the midden. At this time it is not certain what these differing activities were, but it appears that habitation and processing activities were taking place on the ring while the interior was kept relatively clean. Large sherds may have been removed from the interior, leaving only the smallest sherds to be trampled into the sand. The pits dug on the ring functioned as

hearths to cook or steam shellfish, fish and meat, while the one found in the interior seems to have served as a trash or storage pit.

The location of Lighthouse Point was chosen for its close proximity to large tracts of maritime forest, marsh and tidal creeks. Fresh water may have been provided by a spring, or the brackish water of Parrot Creek may have been utilized (cf. Trinkley 1976c). The species exploited at Lighthouse Point seem to parallel those identified from other Thom's Creek shell middens along the South Carolina coast. Subsistence may be viewed from a number of perspectives, such as starting with a given catchment area and asking, "what resources are available within this area?" Another method, perhaps more logical, is to start with the data and resources as given and from this reconstruct the catchment circle. In the case of Lighthouse Point the two methods give very similar answers; the major conclusion being that the inhabitants of this site (and probably all people during the Thom's Creek Phase) drew on the resources well below the carrying capacity of the coastal environment (cf. Sahlins 1972).

Work at Lighthouse Point, as well as at additional sites, is piecing together a view of subsistence that suggests inhabitants of sites during the Thom's Creek Phase were hunters of the one large mammal readily available (deer) and fishermen of the various tidal creeks surrounding the sites. In addition to these major activities, small game and birds were hunted, while shellfish, turtles, crabs, oysters and limited plant foods were collected. The foods hunted and collected by the Indians represent a wide span of possible collection times, probably indicating that the Thom's Creek Phase sites were occupied year round. The quantities of food remains, as well as other data, suggest that these sites represent hamlets composed of not more than 10 to 12 households, totaling perhaps 50 to 60 persons.

No definite remains of structures have been recovered, although post holes have been located. It may be that structures consisted of simple lean-tos utilizing only a few posts. The household cluster may consist only of the lean-to and several cooking pits. To date no burials have been recovered from a Thom's Creek Phase site which could be related to the total site plan, although Michie (1976:personal communication) reports that three inhumations have washed out of the midden at Daws Island (SoC 255).

Lighthouse Point is a unique site in that it is on high ground and has not had reoccurring high water levels obliterating features. Care must be exercised in excavation because the site has been extensively disturbed; but this should not be a deterrent to further work. Because the upper three-quarters of the midden has been removed, the site will not provide stratigraphic information necessary to explore artifact or site change through time; it does offer an opportunity to study sub-surface features and innersite differentiation. There are only 21 other known shell rings along the South Carolina coast and most of these are partially destroyed or are in unfavorable situations for excavation. The opportunity to study these ring-shaped middens is excellent at Lighthouse Point and further

work will concentrate in four areas: 1) the investigation of the subsistence-settlement pattern with particular attention to the definition of the household cluster and catchment area, 2) the identification of activity areas within the community and identification of the function of the ring interior, 3) the relationship of Lighthouse Point to smaller, irregularly-shaped middens in the vicinity, and 4) a techno-functional study of worked bone, lithic, and shell artifacts.

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